

BUSINESS ADMINISTRATION

Takahashi Nobuo
The University of Tokyo

INTRODUCTION

With the beginning of the twenty-first century, ever-increasing needs relevant to the field of business administration and business scholars in Japan have become a characteristic of this period. Japanese corporations active around the globe began to require not only introductions to Western theories, as in the past, but also to seek answers from Japanese business scholars to the problems they were facing. This review will not classify research into even narrower academic fields, but will attempt to arrange the trends seen in management studies circles as a whole into three broad subjects.

The first section looks at the establishment of organizational capability as the evolution of “production management.” From the end of the twentieth century, as is typified in the Toyota Production System (TPS) and Total Quality Control (TQC), the opportunity was arising for “Integral Manufacturing Systems,” in which a number of postwar Japanese corporations can take pride internationally, to be dispatched from Japan to the world, and this in the form of establishing organizational capability stirred the beginnings of a movement.

The second section, in complete contrast to the sound direction of establishing organizational capability, takes up the “performance-based pay system” (*seika shugi* 成果主義) and personnel system, which spread rapidly with the start of the twenty-first century and have come to inflict damage on Japanese corporations. For Japanese business scholars this was precisely a litmus test. Scholars, who catered to the performance-based pay system and feigned a neutral position, even after its failure became clear, are unlikely to escape criticism.

Trends involving intellectual property rights are dealt with in the third section. When industrial circles were in confusion over compensa-

tion for inventions, it is regrettable that business scholars who had supposedly already undertaken research concerning the related fields of venture business and innovation had almost no comments or research to offer on this subject.

If one were to be scrupulous over self-examination and self-reproach, as far as the issues discussed in sections two and three are concerned, the majority of business scholars did no less than idle away their time during this period, despite there having been a social need for their contribution. There is no other choice but to recognize this unfortunate reality.

I. THE ESTABLISHMENT OF ORGANIZATIONAL CAPABILITY

A work by Fujimoto Takahiro [I-01] sees manufacturing companies as systems of “organizational capability,” and closely analyzes the long-term development patterns of companies and industries from the perspective of “capability-building competition.” According to Fujimoto, the “organizational capability” of production in the manufacturing industry has a three-tiered structure. The first tier comprises routine production capability as seen in daily on-site production activities. The second tier features routine improvement capability that brings about steady upgrading through maintaining deeper layer competitiveness, as in productivity, quality and delivery time. The third tier refers to the capacity to establish these two routine organizational capabilities faster than rivals, and the author refers to this evolutionary capability as “capability-building capacity.” Further, the author states that from the second half of the twentieth century, Japan’s automobile industry, by developing its capability-building competition faster and more rigorously than other countries, has held the competitive edge for a long time, at least in production performance. However, this work also claims that in fact, the capability-building competition of many Japanese industries, for example, even the home appliance and electronic industries, has been inconclusive, and that there is much to be learnt from the history of capability-building competition in Japan’s automobile industry from the second half of the twentieth century.

Based on this perspective, Fujimoto [I-02] is also the editor of a textbook on production management and technology management, or in other words, “production business administration.” Further, a textbook by Nobeoka Kentarō [I-03] looks at product development from the viewpoint of organizational theory and strategic theory, placing

emphasis on the perspective of how to build up outstanding organizational capability for product development. There is also a study by Hino Satoshi [I-04] that looks at production benchmarking by focusing on Toyota, and a work edited by Maruyama Yoshinari [I-05] that undertakes a comparison of the production systems of Toyota and Sweden’s automaker Volvo.

Moreover, a work by Aoki Masahiko and Andō Haruhiko [I-06] suggests the capability-building competition Fujimoto advocates has, as an architecture theory, the potential to transform the state and classification of industries. For example, through a survey of existing literature on technology management theory and organizational theory that analyzes the relationship between the product development system and competitiveness, Fujimoto [I-07] sums up the sustained flow of research from early research that examined the general cause-and-effect relationship between product development processes and the success of new products, to research on individual industries based on a clear awareness of competitiveness, and further, to comparative studies of products that focus on the fact that patterns seen in effective new product development processes patterns can differ according to the product. Carrying on from this point, Kuwashima Ken’ichi [I-08] sets in order the developmental process of research on new product development up until recent times.

In a study edited by the Society for the Study of Functional Chemical Industries [I-09] Fujimoto and Kuwashima expand the architecture theory based on their awareness of organizational capability. Within the chemical industry, functional chemistry, which refers to the field of specialty products such as the automobile tire industry, the photographic film industry, and the semiconductor material industry in which the share of the world market held by Japan is 30%, 50% and 70% respectively, is in the process of becoming the core business for Japan’s chemical industry manufacturers. This joint study by Fujimoto and Kuwashima, from the perspectives of architecture theory and product development theory, points to the fact that in many aspects, functional chemical products bear similarities with other manufacturing industries such as machine-related industries. Moreover, another work by Fujimoto [I-10] emphasizes that competitiveness of the production site is influenced by compatibility between the organizational capability and architecture of production.

However, the situation may differ somewhat in the software industry. In the debate on architecture, Takahashi Nobuo and Takamatsu Tomofumi [I-11] raise questions about openness, which garnered

attention as the result of Linux's success. If the historical details of this success are put carefully in order, the essence of success is not to be found in open source strategy, but rather in the "miraculous" timing of input and a development style aimed at heightening the motivation of participants in software development, in a similar way to that of Microsoft. A study edited by Shintaku Junjirō, Tanaka Tatsuo and Yanagawa Noriyuki [I-12] is the first in the world to take up the video game industry centering on game software from the standpoint of business administration and economics, and full-scale research covering this field is anticipated in the future.

Having classified corporate and business strategy into four broad categories, that is, 1) the positioning approach, 2) the resource approach, 3) the game approach, and 4) the learning approach, a study by Aoshima Yaichi and Katō Toshihiko [I-13] sums up strategy in a conclusive manner. Among these approaches the establishment of organizational capability has a deep connection with approaches 2) and 4). Regarding the resource approach (2), Takahashi Nobuo and Shintaku Junjirō [I-14] have undertaken a systematic literature review of the resource-based view (RBV), which came to the forefront in economics from the latter half of the 1980s. In the resource-based view, conditions that will bring about sustainability of competitive advantage are sought, and uncertain factors such as imitability, tradability and substitutability have been cited, but a system to bring about heterogeneity and the existence of leadership have also been considered important prerequisites. As far as resources go, research concerning the mechanisms that build up and support brands is also important, as shown in a study by Katahira Hotaka [I-15] and a joint study by Katahira Hotaka, Furukawa Ichirō and Abe Makoto [I-16]. Regarding the learning approach (4), Yoshida Takeshi [I-17] has undertaken a literature review of organizational learning theory from the perspectives of the formation of knowledge and concurrent problem solving that links different factors. As one aspect of organizational capability, a work by Nakamura Kōichi [I-18] analyzes M&A with the focus on the effect of shortened hours for the purpose of achieving strategic objectives, and suggests that a factor such as M&A competence may exist.

Research that steadily collects data to review this type of organizational capability also continued. Konnō Yoshinori [I-19] indicates that differences in the structure of transaction networks dealing in components influence the learning process and performance of suppliers embedded in these networks. Further, although existing research

to date has claimed the influence of the introduction and use of 3D-CAD (computer-aided design) technology on development efficiency (costs and development lead time) cannot be confirmed, a work by Ku Seung-hwan [I-20] looks at the relationship between 3D-CAD technology and development efficiency through a covariance structure analysis while taking into account interfirm communication, and confirms that a correlation between the use of 3D-CAD technology and development efficiency cannot be found due to the fact that this technology simultaneously has the positive effect of reducing the number of problem-solving cycles and contributing to the promotion of development efficiency, and the negative effect of increasing the number of problem-solving cycles as the result of an increase in the quantity and frequency of interfirm communication, thus resulting in the positive and negative effects canceling each other out. Harada Tsutomu [I-21] uses the panel data of 296 manufacturing and nonmanufacturing industries taken from 1996-99 in a "Data Processing Fact-Finding Survey" by the Ministry of Economy, Trade and Industry, and having defined three categories pertaining to IT (information technology)—outsourcing, internal procurement and a coexistence model—he concludes that a cost reducing effect cannot be confirmed in the case of the coexistence model. Concerning measurements such as these, a study edited by Monden Yasuhiro [I-22] indicates how a perspective based on managerial accounting will become more and more important in the future. Further, a positive study by Satō Hiroki and Genda Yūji [I-23] concludes that the managers of companies that feature outstanding growth potential and employment generation, have succeeded in fostering their employees by bringing out a sense of challenge while observing them well and maintaining communication. In many cases it is precisely the developing and expanding small businesses that take a positive attitude toward capability development. This study also brings to light the fact that among corporations experiencing growth and expansion, in a large number of cases the manager has his own staff and a competent right-hand man who serves as adviser.

II. FAILURE OF THE PERFORMANCE-BASED PAY SYSTEM

In complete contrast to the positive direction of establishing organizational capability, the introduction of a misdirected personnel system and wage system progressed rapidly among Japanese corporations, and then during this period corporations faced the serious situation of low morale and an increase in the labor turnover rate. This is the pay for

performance system. Although there were problems in the molding of public opinion by the mass media and consultancy firms, there is a profound problem regarding the stance of those involved in the academic community who not only failed to clearly point out the mistake, but who rather gave priority to climbing on the bandwagon.

The performance-based pay system is a wage and personnel system that began to gain in popularity among large corporations from the latter part of the 1990s, and in contrast to the age-based wage system that had been in use in Japanese corporations until that time, aims to a) bring results and performance to the fore of evaluation, and b) reflect differences in short-term results in wages and create an earning differential. This system spread rapidly from the year 2000 onwards. As is pointed out in a study by Tsuchida Michio and Yamakawa Ryūichi [II-01], there are various problems in the performance-based personnel system, and although, depending on one's point of view, there are more significant problems involved than those seen in the conventional age-based wage system, due to the sudden gain in popularity of the performance-based personnel system, legal investigations were slow to start. Nevertheless, from the latter half of the 1990s, court cases involving this system have been increasing steadily, their content of a diverse nature ranging from the rights and wrongs of personnel evaluation to dismissal based on deficiency in performance.

According to the "2001 Comprehensive Survey of Working Conditions" conducted by the Ministry of Health, Labor and Welfare, the percentage of companies that reflected individual performance in wages reached 65.0% at management level, and 66.1% even in non-management positions. However, at the same time, of these companies only 10.6% reported that the performance evaluation system was "working well," while 40.0% reported that "partial revisions were necessary," and 33.0% reported that there were "a number of points requiring improvement," thus comprising an overwhelming majority of the companies surveyed. Moreover, 32.9% of the companies replied that "they could not gain the understanding of their employees concerning evaluation," and 26.5% of the companies reported that "evaluation triggered a decrease in work motivation," indicating the problems in this system.

Nevertheless, literature that jumped on the bandwagon of the spreading popularity of the performance-based pay system appeared in quick succession. Even a work edited by Kusuda Kyū [II-02], who is known for his "vocational-qualification system," which establishes qualification divisions by classifying the work within a corporation by occupation and by degree of proficiency and then extracting corre-

sponding vocational requirements, advocates the "Japanese performance-based pay system." The author claims this is the requirement of an era in which the labor market is influenced by low growth and a buyers' market. However, using the low growth rate of the whole Japanese economy to discuss the personnel systems of individual companies is a mistake in itself. This is because the growth rate for each company differs. If there are companies that continue to have a high growth rate even in tough economic times, were there not a number of large companies that continued to post a deficit and came to the brink of bankruptcy even in the middle of the unprecedented bubble boom. There is no relation between the personnel systems of individual corporations and the growth rate of the Japanese economy.

A work by Yanashita Kōichi [II-03], who, as someone in a position of responsibility in the personnel department of Takeda Pharmaceutical Company, Ltd. 武田薬品工業, supervised personnel system reforms at the said company, and subsequently changed his occupation to human resource consulting, stresses that the performance-based pay system merely confirms that "wages are compensation for performance." However, having said that wages are compensation for performance, his work then omits any basic observations whatsoever on whether this really improves the motivation of employees or leads to an increase in productivity. It is ironic that an episode from 1994 is introduced in which the author, accompanied by a consultant, and having just recriminated himself by telling a member of the teaching staff at Harvard University that in Japan independence of the individual is still not established, has his comment dismissed with a laugh and is told that "having brought such wonderful teamwork to fruition, independence of the individual isn't necessary. And here we are making every effort to learn Japanese organizing ability."

In actual fact, the introduction of the performance-based pay system was accompanied by the collapse of teamwork, and problems occurred in quick succession. A work by Takahashi Shunsuke [II-04], who from the 1990s advocated a shift to the performance-based pay system and was involved in its introduction as a consultant, clearly enumerates doubts about the side effects and positive effects of this system. Moreover, in a separate work [II-05] this same author dances to another tune by preaching the key to success in how one should promote one's career in companies that use the trouble-ridden performance-based pay system. This behavior is close to a tradesperson doing the rounds selling poison and then pressuring people to buy the antidote.

However, even as the negative effect came out into the open and the failure of the performance-based pay system started to become apparent, a movement from within academic circles to criticize the performance-based pay system directly did not readily appear. The trend in the academic community during this period, like Takahashi Shunsuke, was to climb on the bandwagon of introducing the performance-based pay system in the business community and to engage in conceptual introductions of personnel related research from the United States and Europe, despite recognizing the numerous problems of the performance-based pay system. Regardless of the fact that Kanai Toshihiro, Morishima Motohiro and Takahashi Kiyoshi [II-06] present findings indicating that far from resulting in improvements, morale deteriorates in the performance-based pay system, their work acknowledges the system and basically expresses agreement with Takahashi Shunsuke. Further, other studies by Kanai Toshihiro [II-07~10] are committed to promoting career development along the same lines as Takahashi Shunsuke. Why there is no attempt to eliminate the root causes behind the generation of these problems brings into question the integrity of these people of academic standing.

Moreover, even regarding the introduction of theories from the West, there was a lack of balance in the approach taken. For example, the competency theory espoused by Yanashita, had in actual fact already been the subject of continued criticism in the United States in the latter half of the 1990s, and this theory that had already been expelled in the US was introduced in Japan and became a boom five years later. It is worth noting that any critical handling of such developments was undertaken not at the level of academic societies, but by a private research institute [II-11].

Although he does not refer to the performance-based pay system, Numagami Tsuyoshi [II-12] gives a favorable impression with his composed discussion of Japanese organizations, and points out that whether it be the Japanese press or academics, there are numerous individuals who, despite having no intention of taking responsibility and subsequent action themselves, take a so-called opposition stance and indulge in persistent criticism of what other people are undertaking. In actual fact this hits the nail on the head. Regardless of the fact that a publication written during this period by Imano Kōichirō and Satō Hiroki [II-13] takes the form of a voluminous comprehensive textbook, the term “performance-based pay system” does not appear even once. The case of Takeda Pharmaceutical Company, Ltd. is covered as an example of a wages according to function system.

However, as regards personnel systems in Japanese corporations, this work places them in careful order, and suggests that the functions of personnel evaluation incorporated in the personnel management system and performance evaluation incorporated in the work management cycle differ. However, in an about turn, another study edited by Imano Kōichirō [II-14] states performance management has existed in the past and, on that basis, personnel management was undertaken in a way similar to that of the performance-based pay system, thus changing his position to one that, to the contrary, feigns to support the performance-based pay system.

In these circumstances, the first work that directly criticized the performance-based pay system itself was that by Takahashi Nobuo [II-15]. The point of view put forward in this work is firstly that the essence of the Japanese-style personnel system lies not in a system that rewards workers with wages but in a system that rewards workers with the content of their next job. The job content in itself functioned by leading to motivation, and from the viewpoint of intrinsic motivation, was the most natural model. On the other hand, regarding the wage system in Japanese corporations, the wage curve was designed from the perspective of guaranteeing living costs rather than for the purpose of motivation. These two factors supported Japan's economic growth. Takahashi claims that now is the time to return to the starting point, and that the personnel system—boldly referred to as a “Japanese-style seniority system”—should be restructured into the type of system that would protect the livelihood of employees and where employees' efforts would be rewarded by the content and interest factor of their jobs. The publication *Kyomō no seika shugi* 虚妄の成果主義 (The Illusory Performance-Based Pay System), a work which developed the themes in the above-mentioned study, was published in January 2004. Having become a best-seller, the establishment of judgment on the failure and collapse of the performance-based pay system required the passing of approximately one more year.

In addition, regarding personnel affairs and labor, studies by young researchers covering up-to-date topics were to be seen, such as the works by Futagami Shiho [II-16] on the mobilization of personnel, Matsuo Makoto [II-17] on internal competition, and Yasuda Yuki [II-18] on the difficulty of high school students finding employment. Further, as seen in a work by Saguchi Kazurō and Hashimoto Shūichi [II-19], there was also research, focusing on the period from the 1950s to the 1960s, that analyzes the historical development processes of systems found in Japanese corporations, for example, the newly

graduated high-school student recruiting system, the wages based on job evaluation system and the compulsory retirement system.

III. INTELLECTUAL PROPERTY BUSINESS

As regards the intellectual property system, in particular the patent system, Gotō Akira and Nagaoka Sadao [III-01] examine this field from the viewpoint of economics and business administration. However, there are surprisingly few studies that bring intellectual property to the fore from the perspective of economics. While covering the example of Stanford University on which the model in question is based, Watanabe Toshiya and Sumikura Kōichi's work [III-02] explains a model that is on the road to being made a success of by the parties involved at the University of Tokyo, an institution which is at the forefront of the technology transfer and university-industry collaborations in Japan. As this stage, the United States inclusive, this is the only successful marketing model that moves the business of intellectual property to center stage. In actual fact, as Takahashi Nobuo and Nakano Kōji maintain in their study [III-03], if one repositions the technology transfer at universities, where the focus tends to be on the number of patents and the amount of income from royalties, from the perspective of the scene of university-industry collaboration, this is where, in the midst of business operations that center on marketability, the inner fighting takes place over how to protect the rights of researchers and universities. The true technology transfer is not the transfer of patents. It is the transfer of people who have sufficient technology to produce a patent. This is where the real worth of universities as research and education institutions can be found.

In contrast to this, going with the current of the times, another work by Ishikura Yōko *et al.* [III-04] discusses the connection between the technology transfer from universities and regional industrial clusters, but this study leaves the reader with an uneasy feeling that it does not go much beyond simple propaganda for regional industrial policy. Rather, as is demonstrated in a study edited by Gotō Akira and Odagiri Hiroyuki [III-05], a correct direction for research from an economic perspective, would be to call the industrial groups where the weight of basic science is especially great, such as the biotechnology industry or electronic industry, "science-based industries," and limited to this definition, point out the significance of collaboration with universities.

Further, the development of blue LEDs (light emitting diode),

which was also discussed in Watanabe Toshiya and Sumikura Kōichi's work [III-02], attracted considerable interest in a different sense of the word during this period. The focus of this interest was the blue LED lawsuit. Centering on patent compensation for blue LEDs, the inventor Nakamura Shūji 中村修二 filed a case against Nichia Corporation 日亜化学, his original place of employment, in August 2001, and the original judgment passed by the Tokyo District Court decreed on January 30, 2004 that Nichia Corporation must pay Nakamura the full amount of 20 billion yen he had claimed. This ruling was based on the fact that the monopoly profit Nichia Corporation gained from the invention of blue LEDs was 120.8 billion yen, and having determined that Nakamura's contribution was 50%, the patent compensation was calculated at 60.4 billion yen. However, at this stage the propaganda on Nakamura's side had already begun. During this period Nichia Corporation maintained silence, but in actual fact, there was almost no academic investigation into what the conditions of the development process were really like. An article by Fujii Daiji [III-06] refers to this case marginally, but the fact that there were already numerous differences in opinion is recorded in a "supplement," and thus a conclusion is avoided.

Going with this current of the times, there were improvised attempts to provide an indicator for the intellectual property of corporations, as seen in works by Okada Eri [III-07, 08]. However, there is a risk in naively believing in the stock market's efficiency and using accounting information premised on this belief. In reality, as is pointed out in a work by Katō Hideaki [III-09], historically speaking, the bubble phenomenon of the stock market has been repeated time and time again, and the period of sustainability for bubble periods has been relatively long. For that very reason, "behavioral finance," which attempts to analyze investment behavior without ignoring the psychological aspect of human behavior, has come to attract attention. Going as far as the comment in a work by Kikuchi Jun'ichi [III-10] to the effect that "the issue of how one makes an evaluation essentially comes back to the one factor of what the evaluation is to be used for," can be said to be too arbitrary. It is as if evaluation itself is being discarded.

In evaluating intellectual property, a perspective based on business administration that interprets intellectual property as a licensing business, which is common sense in practical business, would appear to be more productive. Regarding a work by Saotome Shōzō and Hashimoto Masataka [III-11], the original work was published by Saotome Shōzō in 1987 and had been out of print following the

author's death. This edition has been newly revised by Hashimoto Masataka, who was a junior colleague of the author of the original work at Mitsubishi Chemical Corporation 三菱化学, and it is based on subsequent developments in the domestic and international legal structure and trade practices. Although this work is written by a businessman, in the sense of understanding intellectual property from a management perspective, it foresees the development of research from this perspective in the future, that is, licensing as a business.

IV. MISCELLANEOUS

There was nothing worth looking at regarding research on venture business and innovation from the viewpoint of business administration during the period under review, whereas, properly speaking, this should have been actively discussed in connection with the subject of intellectual property. A commentary on the behavior patterns of entrepreneurs from the perspective of organizational psychology by Tao Masao [IV-01] and a textbook written for people aiming to start up a new business by Kanai Kazuyori and Tsunoda Ryūtarō [III-02] are about the extent of what appeared.

Concerning NPOs, there were full-fledged positive studies that went beyond the level of introducing NPO activities, as seen in a work by Tanimoto Kanji and Tao Masao [IV-03]. Kojima Hiromitsu's analysis [IV-04] of the process of passing NPO law is valuable even as a record. "NPO Law" referred to in this study is two laws, the first being the "Law to Promote Specified Nonprofit Activities," which was passed into legislation by Diet members in 1998. This was followed by a part of the preferential tax system that had been kept on the back burner but was passed by government legislation in 2001 as the "Law for Partial Revision of the Special Taxation Measures Law." As a case study, Kojima's work looks at why and how NPO Law, which was not enacted for a long period in Japan despite awareness of the need, came to be passed into legislation just six years after the Great Hanshin and Awaji Earthquake of 1995.

Moreover, as regards the assessment of NPOs, a factor that had been lacking in positive studies to date despite its significance, a work by Matsumoto Wataru and Takahashi Nobuo [IV-05] undertakes an analysis of actual assessment methods for the first time. Until now there were numerous disadvantages in the project evaluations adopted for NPOs, such as the difficulties that come with measuring performance for a specific service. In the above-mentioned work, Matsumoto and

Takahashi analyze the assessment methods of the Nippon Foundation, one of the world's largest aid foundations, and based on this empirical knowledge, they examine the assessment mechanism and validity of data for the 24 NPO support centers in Japan. Using four assessment tools, two for organization assessment that the Foundation was already aware of—1) the special characteristics of an organization and 2) the special characteristics of its leader, together with two new tools which the authors added—3) planning ability and 4) organizing ability, they were virtually able to reconstruct the organization assessment method in which the aid screening know-how of the Foundation was condensed. Further, this work also clarifies how the Foundation, just as if it were dealing in venture capital, and having sought to upgrade these two tools, aims to have NPOs develop independent operations and to set them on a self-directive growth path.

During this period, Asakawa Kazuhiro [IV-06], a researcher whose activities up until this point had focused on overseas journals, published the first systematic textbook on international management based on organizational theory and strategic theory. This work is of great significance. However, as a whole, research on international management was sluggish. In these circumstances, the sustained research by Amano Tomofumi draws attention. In one work, Amano [IV-07] uses individual data from the years 1992 and 1995 on electronic makers taken from the Ministry of Economy, Trade and Industry's "Survey of Overseas Business Activity" to divide the transfer of production activities to East Asia into two groups at a ratio of three to seven, the former being the group that is bringing about domestic hollowing out, and the latter being the group that is pushing forward a transformation in the domestic business structure through local and domestic "compartmentalization" based on corporate international division of labor strategy. In another work Amano [IV-08] complements this knowledge with a field survey he conducted between 1998 and 2000 on 29 divisions of 19 companies belonging to the electronics industry. This survey categorizes in detail the competitive strategies and patterns seen in the division of labor patterns for each of the two groups.

The field of organization theory was also sluggish. A work edited by Tao Masao [IV-09], in contrast to the group of theories that has been traditionally considered as rational organizational theory, summarizes viewpoints and concepts that emphasize irrationality, but does not succeed in hammering out a new direction. A study by Kōno Daiki [IV-10] on C. I. Barnard, who can be said to be a tradition among business administration academic circles in Japan, a collection of

comments compiled by Nonaka Ikujiro and Konno Noboru [IV-11], the foremost authorities on the creation of knowledge, based on their readings of philosophy, a textbook edited by Inaba Motokichi [IV-12] that focuses on vested interests surrounding companies, such as shareholders, financial institutions, the government, labor unions, customers and suppliers, and a work edited by Tao Masao, Nishimura Shūzō and Fujita Ayako [IV-13] on superannuated societies, all lack punch.

Although they cannot perhaps be categorized under business administration, it is rather works in the field of mathematical finance, such as a derivative mathematical analysis using the asymptotic expansion approach (Malliavin Calculus) by Kunitomo Naoto and Takahashi Akihiko [IV-14], and a textbook covering marketing from a mathematical measurement approach by Furukawa Ichirō *et al.* [IV-15] that give the impression of new germination.

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